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end. That end of the putlog which is to be inserted in the wall is carefully squared to fit the hole, and its middle is cut out. Into this space are inserted two fixed cheeks, each bearing against an outer spring, the tendency of which is to press the cheeks within the putlog. Between the cheeks is an iron wedge with a long handle, reaching through to the other end of the putlog: at this extremity it is screwed, and a key works on the screw. When the handle is pushed so as to bring the base of the wedge even with the end of the putlog, the cheeks are pressed within the hollow by the action of their respective springs; but when, by turning the key, the wedge is drawn up, the action of the springs is overcome, the two cheeks are pressed outwards, and the two blunt teeth, with which each cheek is furnished, press strongly against the sides of the hole, and prevent the putlog from being withdrawn, except by reversing the motion of the key, and thus allowing the wedge to be pushed down again to its former position.

No. IV.

BOLT-PLATE.

The SILVER ISIS MEDAL *was presented to Mr.* BENJAMIN HOLMES, *Clerk of the Works at Chatsworth House, Derbyshire, for his Spring Bolt-Plate; one of which has been placed in the Society's Repository.*

SIR, *Chatsworth, Feb.* 25, 1839.

I WILL thank you to lay before the Society of Arts the accompanying improved bolt-plate. The inconvenience and unsightly appearance of the old plate induced me to turn my attention to an improvement of it; and I have successfully applied it to the various folding doors now fixing at Chatsworth, the seat of his Grace the Duke of Devonshire, and found it answer perfectly; and if it should be deemed worthy of the notice of the Society, I shall be much pleased.

I am, Sir, &c. &c.

JAMES HOLMES,
Clerk of the Works,
at Chatsworth.

A. AIKIN, Esq.
Secretary, &c. &c.

The hole made in the floor of a room to admit the lower bolt of a pair of folding-doors is an eyesore, and, unless carried quite through the flooring, is liable to get filled with dust and dirt. To avoid this inconvenience, a metal plug, resting on a spiral spring, inclosed in a tube, has been used. It gives way before the bolt as it is pressed down, and rises again so as to close the hole as soon as the bolt is raised. It has been found, however, that in process of time, the tube gets choked with dust, and the action of the spring is obstructed. To avoid this inconvenience, Mr. Holmes has invented, and used with perfect success, the following modification of the spring bolt-plate.

The plate is screwed down to the floor, and the hole which receives the bolt is carried through the floor-board. Fig. 1 is a side view, and fig. 2 an end view. *a a*, part of one of the flooring boards in section; *b b*, the perforated plate, also in section, fastened by screws to the floor-board, and having a bent plate *c c* descending from it, on which is a cylindrical pin *d* and a nib *e*. The whole of these parts are cast in one piece, as shewn more distinctly in fig. 3. On *d*, as its centre of motion, is inserted the perforated end of the arm *fg*, and is kept in its place by the binding screw *h*; the other end *g* terminates in a round plug that exactly fits the bolt-hole in the plate: the lower part of the plug is left square, as shewn at *i i*, fig. 4, and its use is to stop against the underside of the plate, and thus prevent the plug from rising above the surface: *j* is a spring that raises the plug, and holds it in the hole of the plate whenever the bolt is raised: *k* is the lower end of the bolt, which, as it descends, forces the bent arm, which carries the plug, into the position shewn by the dotted lines: *e*, figs. 1 and 3, is a nib or small projection, which prevents the bent arm from being forced down so far as to injure its spring.